

REMARKS/ARGUMENTS

In the Official Action dated July 7, 2006, the Examiner rejected all of pending claims 1-6 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-5 and 9-19 of co-pending Application No. 10/676,760. Accordingly, Applicants present a Terminal Disclaimer herewith to overcome the provisional nonstatutory obviousness-type double patenting rejection.

Claims 1, 2, and 4-6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Boerwinkle US 4,290,912 in view of Schmidt US 3,354,117 and Wysong US 4,119,604.

Applicants' claimed invention as set forth in claim 1 and claim 26, relate to a concentrate and a composition, respectively, comprising a polymer which is either biodegradable or non-biodegradable having dispersed therein an alkali metal silicate or a zinc oxide, a sodium nitrite, a tri-substituted phenol, and an adjuvant such as fumed silica or calcium carbonate.

As noted by the Examiner, the primary reference of Boerwinkle discloses a polyolefin polymer, an inorganic nitrite salt, a trisubstituted phenol, and fumed silica. Accordingly, it is stated that Boerwinkle does not teach or suggest the utilization of zinc oxide or sodium silicate.

The secondary Schmidt reference has thus been applied as being applicable since it teaches the use of zinc oxide. Applicants respectfully disagree.

The Schmidt reference as a whole relates to polyolefins that are stabilized with respect to thermal decomposition induced by catalytic contact with metal such as copper, magnesium, and alloys thereof, see Col. 2, lines 6-17. The key aspect of the Schmidt invention is that in addition to using known stabilizers, an organic phosphorus compound is used as a co-stabilizer. It is stated that one of the known stabilizers can be zinc oxide. As such, the Schmidt reference lacks any teaching or suggestion of biodegradable polymers, an alkali metal silicate, sodium nitrite, as well as an adjuvant such as fumed silica or calcium carbonate. However, before this aspect is discussed, it is respectfully submitted that the Schmidt reference relates to non-analogous art. As set forth in *ex parte* Gaechter, 65

USPQ2d 1690 (BPAI 2002), the Board of Appeals stated that two criteria exist for determining whether a reference is non-analogous art. The first is whether the art is from the same field of endeavor. The answer to this question is **no** in that Schmidt relates to stabilized polyolefins that are stabilized with an organic phosphorus compound whereas the claims of the present application relate to a composition containing several compounds for inhibiting corrosion with respect to iron surfaces. That is, the polymers of the present invention protect iron from being corroded by releasing vapor corrosion inhibiting compounds from the corrosion inhibiting composition into a confined area in which the iron is contained. The second question is whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. The Schmidt reference concerns protecting the polyolefin from thermal decomposition. The present invention relates to the problem of prohibiting iron parts, etc. from oxidation corrosion by releasing vapor corrosion inhibiting compounds from a polymer composition. The problems are decidedly different and it is thus respectfully submitted that the Schmidt reference relates to a non-analogous art and is not a proper reference.

In order for references to be combined, there must be some teaching, suggestion, or motivation to combine the same. Schmidt lacks an important component of Applicants' volatile corrosion inhibitor, that is sodium nitrite. As noted in the Examples of page 19 of the present application, when only plain polyethylene (PE) was used, high corrosion of iron was obtained, i.e. a reading of 1 or 2. However, when sodium nitrite was utilized a reading of 7 or 8 with regard to corrosion resistance was obtained. Inasmuch as the Schmidt reference lacks any use of sodium nitrite, there is no suggestion or motivation to combine it with the primary Boerwinkle reference other than by forbidden hindsight reconstruction.

Applicants' invention utilizes zinc oxide in combination with a polymer such as polyethylene. The Examples on page 22, lines 8-12, of the application reveal that when zinc oxide was blended with a polymer it did not provide any corrosion protection in that the corrosion level was very poor, i.e. only 1 or 2. (The lower the number, the more severe the corrosion.) Thus, it would be expected that when zinc oxide was utilized with sodium nitrite as set forth in the Boerwinkle reference, similar results would be obtained. Yet, as set forth on page 19, lines 1-12, of the specification, combining zinc oxide with the components of the Boerwinkle reference yield a corrosion value of 9 or 10. This improvement was unexpected

and synergistic in that an improvement, i.e. from 7.5 to 9.5, of 27% was obtained! Comparative data in Applicants' application thus conclusively proves that the utilization of zinc oxide would not be expected to impart any additional corrosion resistance and that the results obtained were unexpected and synergistic. Upon this basis, it is deemed that Applicants' claims are allowable.

Considering the Wysong reference, it relates to a polymer composition comprising low and medium molecular weight polymers of polyvinyl alcohol, antioxidants, and silica. Within the list of many adjuvants is set forth a silicate such as sodium silicate.

The Wysong reference relates to water soluble polyvinyl alcohol compositions which are rapidly and completely solublized in water, including cold water, i.e. about 4°C. In contrast thereto, the present invention relates to a corrosion inhibitor polymer composition which releases volatile corrosion inhibitors during the use thereof. As such, the fields of endeavor are decidedly different. The Wysong reference is pertinent with regard to the problem of rapidly dissolving in water whereas the problem solved by the Applicants' composition is the protection of metal, especially iron, by the release of volatile corrosion inhibitors. Thus, the Wysong reference is not reasonably pertinent with regard to the particular problem by which the invention is involved. Thus, according to the standards set forth by the Gaechter case, the Wysong reference is non-analogous art.

As with the Schmidt reference, the Wysong reference lacks any suggestion of utilizing sodium nitrite. The use of sodium nitrite, as noted above, is an important ingredient in that it is volatile and upon its release protects metal from rusting. It is thus respectfully submitted that there is no teaching, suggestion, or motivation to combine the Wysong reference with the Boerwinkle reference. Especially since both references relate to different concepts.

While the Wysong reference can contain sodium silicate, the same is set forth as an adjuvant along with many other types of compounds as set forth in Column 6 of the Wysong reference. There is no specific teaching nor any general teaching or suggestion that the same would improve corrosion resistance of metals. A fortiori, as noted by Applicants' comparative examples as set forth on page 22, lines 8-12, the use of sodium silicate in a polymer composition did not yield any improvement with regard to preventing corrosion on

metals. Hence there is no teaching, suggestion, or motivation to combine Wysong with the basic Boerwinkle reference.


Inasmuch as the use of sodium silicate yields very poor corrosion resistant properties when utilized with a polymer, the use thereof in a polymer composition such as Boerwinkle would be expected to produce poor results. Yet, as set forth by the data on page 19, lines 16-19, as well as on page 24, lines 1-12, the use of sodium silicate with sodium nitrite unexpectedly and synergistically yield better results.

In view of the above, there is no motivation to combine any of the secondary references with the basic reference but rather the secondary references teach and suggest away from the present invention. Moreover, Applicants have demonstrated unexpected and synergistic results by utilizing either zinc oxide or an alkali metal silicate with sodium nitrite that none of the secondary references even suggest.

In view of the above amendments and arguments, a formal notice of allowance of claims 1-6 and 16-37 is earnestly solicited.

Respectfully submitted,

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